

REMARKS

In the Office Action, the Examiner rejected claims 1-3 and 5 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,292,362 to Bass et al.; rejected claims 1-3 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,540,677 to Sinofsky; rejected claims 1 and 5 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,749,895 to Sawyer et al.; and rejected claim 4 under 35 U.S.C. § 103(a) as being unpatentable over Bass et al. in view of U.S. Patent No. 5,662,643 to Kung et al..

Applicants have amended claims 1, 2 and 4; and added new claims 6-8. Claims 1-7 are pending in the patent application.

At the outset, Applicants note that claim 1 has been amended to recite the step of providing an adhesive having a collagen concentration at least equal to 300 mg/ml but not more than 800 mg/ml. Support for the changes to claim 1 can be found, for example, in the specification at page 3, lines 5-7 and page 10, lines 13-16. Claim 2 has been amended so that it correctly depends from claim 1. Claim 4 has been amended to maintain antecedent basis.

Applicants have also added new claims 6-8, each of which depends from amended claim 1. New claim 6 recites that the collagen is derivatized with a functional group selected from COO; new claim 7 requires that the adhesive is heated to a temperature

within a range 55°-60°C; and new claim 8 recites that the adhesive is a liquid, gel or solid. Support for new claim 6 can be found, for example, in the specification at page 10, lines 6-8. In addition, exemplary support for new claim 7 can be found in the specification at page 15, lines 10-11, and for claim 8, in the specification at page 3, lines 11-13.

Applicants respectfully traverse the Examiner's rejection of claims 1-3 and 5 under 35 U.S.C. § 102(b) as being anticipated by Bass et al.; the rejection of claims 1-3 under 35 U.S.C. § 102(b) as being anticipated by Sinofsky; and the rejection of claims 1 and 5 under 35 U.S.C. § 102(b) as being anticipated by Sawyer et al.. Each of these references fails to anticipate amended claim 1, for example, because each fails to teach each and every step recited in the claim. In particular, each of Bass et al., Sinofsky and Sawyer et al. at least fails to teach the claimed step of providing an adhesive having a collagen concentration at least equal to 300 mg/ml but not more than 800 mg/ml, as recited in amended claim 1.

Bass et al. describes a composition for bonding separated tissues comprising a component, which is "selected from natural or synthetic peptides enzymatically modified, cleaved, or shortened variants thereof and cross-linked derivatives thereof" (col. 4, lines 53-56). Sinofsky discloses a biological glue, which can include collagen (col. 2, lines 53-61). In addition, Sawyer et al. discloses closing a wound with an adhesive fibrous collagen

material with securement effected by a biological glue (col. 1, lines 45-51). These teachings, which were cited in the Office Action, are silent as to adhesives having a collagen concentration at least equal to 300 mg/ml but not more than 800 mg/ml.

Accordingly, Bass et al., Sinofsky, and Sawyer et al. each fail to teach the claimed method including the step of "providing an adhesive in contact with said first and second tissues, said adhesive including collagen, a concentration of said collagen in said adhesive being at least equal to 300 mg/ml, but less than 800 mg/ml," as recited in amended claim 1.

In light of the above-described deficiencies of each of Bass et al., Sinofsky, and Sawyer et al., Applicants submit that amended claim 1 is allowable over the applied references. Moreover, claims 2, 3 and 5 are allowable over Bass et al. at least due to their dependence from claim 1; claims 2 and 3 are allowable over Sinofsky at least due to their dependence from claim 1; and claim 5 is allowable over Sawyer et al. at least due to its dependence from claim 1.

Applicants respectfully traverse the Examiner's rejection of claim 4 under 35 U.S.C. § 103(a) as being unpatentable over Bass et al. in view of Kung et al.. In formulating the rejection under Section 103, the Examiner contends that Kung et al. teaches a method wherein tissue is bonded together using a protein bonding agent and laser welding agent. Kung et al. is further relied upon for allegedly disclosing monitoring the temperature of a liquid,

09/973,335

gel or solid and adjusting the intensity of electromagnetic radiation. Applicants respectfully submit, however, that even if Kung et al. were combinable with Bass et al. in the manner proposed by the Examiner, Kung et al. would still fail to overcome the above-note shortcomings of Bass et al. Claim 4, therefore, is allowable at least due to its dependence from amended claim 1.

As noted above new claims 6-8 each depend from claim 1, and are thus deemed allowable at least because of their dependence from claim 1.

Applicants petition for a one-month extension of time. Please charge our Deposit Account No. 020900 in the amount of \$55.00 to cover the extension fee (Small Entity) pursuant to 37 C.F.R. § 1.17(a)(1).

An Information Disclosure Statement is enclosed for review. Applicant requests entry of the references into the file. Please charge our Deposit Account in the amount of \$180.00 for submission of the IDS after the First Official Action.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 020900.

09/973,335

If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

PTO is authorized to credit any overpayment to our Deposit Account.

Respectfully submitted,

By:



Stephen Holmes  
Reg. No. 34,621

Date:

BARLOW, JOSEPHS & HOLMES, Ltd.  
101 Dyer Street  
5<sup>th</sup> Floor  
Providence, RI 02903  
401-273-4446 (tel)  
401-273-4447 (fax)  
[sjh@barjos.com](mailto:sjh@barjos.com)